RF Exposure MPE

Report Reference No. ..... :	**HTT2025061079F05**	
FCC ID. ..... :	**2BGY7-HZ02**	
Compiled by (position+printed name+signature). :	File administrators	Heber He
Supervised by (position+printed name+signature). :	Project Engineer	Bruce Zhu
Approved by (position+printed name+signature). :	RF Manager	Kevin Yang
Date of issue ..... :	Jul. 03, 2025	

Testing Laboratory Name ..... :	**Shenzhen HTT Technology Co.,Ltd.**
Address ..... :	1F, Building B, Huafeng International Robotics Industrial Park, Hangcheng Road,Nanchang Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
Applicant's name ..... :	**Huizhou Huizhi Technology Co., Ltd**
Address ..... :	356 Longhai Fourth Road, Dayawan West District, Huizhou City
Standard ..... :	**47CFR §1.1310** **47CFR §2.1091** **KDB447498 D01 General RF Exposure Guidance v06**

Test item description..... :	**WIFI MODULE**
Manufacturer..... :	Huizhou Huizhi Technology Co., Ltd
Trade Mark.....	N/A
Model/Type reference..... :	HZ-TA22UV1.0
Rating..... :	DC 3.3V
Result..... :	**PASS**

TEST REPORT

Equipment under Test	:	WIFI MODULE
Model /Type	:	HZ-TA22UV1.0
Series Model No.		N/A
Applicant	:	**Huizhou Huizhi Technology Co., Ltd**
Address	:	356 Longhai Fourth Road, Dayawan West District, Huizhou City
Manufacturer	:	**Huizhou Huizhi Technology Co., Ltd**
Address	:	356 Longhai Fourth Road, Dayawan West District, Huizhou City

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1 TEST STANDARDS

The tests were performed according to following standards:

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
FCC KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures.
FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.
FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	Jun. 19, 2025
Testing commenced on	:	Jun. 19, 2025
Testing concluded on	:	Jul. 03, 2025

2.2 Product Description

Product Name:	WIFI MODULE
Model No.:	HZ-TA22UV1.0
Series model:	N/A
Test sample(s) ID:	HTT2025061079-1(Engineer sample) HTT2025061079-2(Normal sample)
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK, π/4-DQPSK, 8-DPSK
Antenna Type:	Internal Antenna
Antenna gain:	1.86 dBi
BLE:	
Operation frequency	2402~2480 MHz
Number of Channels	40
Modulation Type	GFSK
Channel separation	2MHz
Antenna Type:	Internal Antenna
Antenna gain:	1.86 dBi
2.4GWIFI:	
Channel numbers:	802.11b/802.11g /802.11n(HT20): 11 802.11n(HT40):7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(H20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	Internal Antenna
Antenna gain:	2.00 dBi for ANT 1 and -2.49 dBi for ANT 2
Power Supply:	DC 3.3V

5GWIFI:	

WLAN	Supported 802.11 a/n/ac
Modulation Type	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac HT80: OFDM (64QAM, 16QAM, QPSK,BPSK)
Operation frequency	IEEE 802.11a:5180--5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT20: 5180--5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT40: 5190-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac20: 5180--5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11ac40: 5190-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac80:5210MHz,5290MHz,5530MHz,5775MHz
Antenna type:	Internal Antenna
Antenna gain:	2.47dBi for 5180-5240MHz for ANT 1, 1.10dBi for 5180-5240MHz forANT 2 2.47dBi for 5260-5320MHz for ANT 1, 1.59dBi for 5260-5320MHz for ANT 2 3.49dBi for 5500-5700MHz for ANT 1, 1.34dBi for 5500-5700MHz for ANT 2 4.09dBi for 5745-5825MHz for ANT 1, 3.04dBi for 5745-5825MHz for ANT 2

2.3 Special Accessories

The following is the EUT test of the auxiliary equipment provided by the laboratory:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
/	/	/	/	/	/

2.4 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen HTT Technology Co.,Ltd.
1F, Building B, Huafeng International Robotics Industrial Park, Hangcheng Road,Nanchang Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 779513 Designation Number: CN1319
Shenzhen HTT Technology Co.,Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6435.01
Shenzhen HTT Technology Co.,Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen HTT Technology Co.,Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Shenzhen HTT Technology Co.,Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.12 dB	(1)
Radiated Emission	30~1000MHz	4.37 dB	(1)
Radiated Emission	1~18GHz	5.40 dB	(1)
Radiated Emission	18-40GHz	5.45 dB	(1)
Conducted Disturbance	0.15~30MHz	2.68 dB	(1)

4 Test limit

4.1 Requirement

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0 3.0 – 30 30 – 300 300 – 1500 1500 – 100,000	614 1842/f 61.4 / /	1.63 4.89/f 0.163 / /	(100) * (900/f²)* 1.0 f/300 5	6 6 6 6 6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0 3.0 – 30 30 – 300 300 – 1500 1500 – 100,000	614 824/f 27.5 / /	1.63 2.19/f 0.073 / /	(100) * (180/f²)* 0.2 f/1500 1.0	30 30 30 30 30

F=frequency in MHz
*=Plane-wave equivalent power density

4.2 MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$S=PG/4\pi R^2$
Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna

4.3 Conducted Power Results

Mode	Max. Peak Conducted Output Power (dBm)
BT	1.86
BLE	6.58

Mode	Max. Peak Conducted Output Power (dBm)	
	Antenna0	Antenna1
2.4GWIFI	27.02	24.98

Mode	Max. Average Conducted Output Power (dBm)	
	Antenna0	Antenna1
UNII-1	9.81	9.37
UNII-2A	7.81	8.31
UNII-2C	9.59	8.01
UNII-3	11.73	9.62

4.4 Manufacturing tolerance

Mode	Max. Peak Conducted Output Power (dBm)	Max. tune-up
BT	1.86	1.0±1
BLE	6.58	6.0±1

Mode	Max. Peak Conducted Output Power (dBm)		Max. tune-up	
	Antenna1	Antenna2	Antenna1	Antenna2
2.4GWIFI	27.02	24.98	27.0±1	24.0±1

Mode	Max. Average Conducted Output Power (dBm)		Max. tune-up	
	Antenna1	Antenna2	Antenna1	Antenna2
UNII-1	9.81	9.37	10.0±1	10±1
UNII-2A	7.81	8.31	8.0±1	8.0±1
UNII-2C	9.59	8.01	10.0±1	8.0±1
UNII-3	11.73	9.62	12.0±1	10.0±1

4.5 Standalone MPE Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is refer to section 2.2, the RF power density can be obtained.

Antenna BT

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
BT	2.0	1.5849	1.86	1.5346	0.0005	1.0000
BLE	7.0	5.0119	1.86	1.5346	0.0015	1.0000

Antenna WIFI 1

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
2.4GWIFI	28.0	630.9573	2.0	1.5849	0.1990	1.0000
UNII-1	11.0	12.5893	2.47	1.7660	0.0044	1.0000
UNII-2A	9.0	7.9433	2.47	1.7660	0.0028	1.0000
UNII-2C	11.0	12.5893	3.49	2.2336	0.0056	1.0000
UNII-3	13.0	19.9526	4.09	2.5645	0.0102	1.0000

Antenna WIFI 2

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
2.4GWIFI	28.0	630.9573	-2.49	0.5636	0.0708	1.0000
UNII-1	11.0	12.5893	1.10	1.2882	0.0032	1.0000
UNII-2A	9.0	7.9433	1.59	1.4421	0.0023	1.0000
UNII-2C	11.0	12.5893	1.34	1.3614	0.0034	1.0000
UNII-3	13.0	19.9526	3.04	2.0137	0.0080	1.0000

Remark:
1. Output power including turn-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

4.6 Simultaneous Transmission for MPE Result

WIFI ANT1 MPE (Ratio)	WIFI ANT2 MPE (Ratio)	BLE MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)
0.1990	0.0708	0.0015	0.2713	1.0000

5 Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device Threshold per KDB 447498 D01v06

********** **End of Report** **********